

2

Docket No. TPI-T600XC1
Serial No. 09/994,585In the Claims

Claims 1-80 (canceled).

Claim 81 (currently amended): A method of screening an array of at least 96 samples to identify conditions, compounds, or compositions that inhibit or prevent transitions of physical state comprising:

(a) preparing and identifying an array of at least 96 samples in tubes and support plates or in sample well plates and dispensing a liquid medium, a disease-causing substance comprising crystallized calcium oxalate in liquid or dissolved form, salts of citric acid and one or more additional components into sample tubes or sample wells with an automated distribution mechanism, and wherein each sample differs with respect to the identity of one or more of the additional components; at least one of:

~~the amount or concentration of the disease-causing substance;~~

~~an identity of one or more of the additional components; or~~

~~an amount or concentration of one or more of the additional components;~~

(b) processing one or more of the samples to induce crystallization, precipitation or deposition of the disease causing substance, said processing comprising the addition of one or more additional components;

(c) analyzing the processed samples to detect the induction of said crystallization, precipitation or deposition using polarized light analysis and Raman spectroscopy; and

(d) selecting those processed samples that exhibit inhibition or prevention of a transition in physical state.

Claims 82-84 (canceled);

Claim 85 (previously presented): The method of claim 81, comprising the addition of said samples to tubes in a support plate.

J:\TPI\T600XC1\TPI\CAA\Fresponse3d.doc\DNB\sl

3

Docket No. TPI-T600XC1
Serial No. 09/994,585

Claim 86 (previously presented): The method of claim 85, wherein said tubes are glass tubes and said support plate is a metal support plate.

Claim 87 (currently amended): The method of claim ~~87~~81, comprising sealing said tubes with a cap.

Claim 88 (previously presented): The method of claim 87, wherein said cap is pierced with a standard syringe needle and fluid aspirated through the syringe tip to remove solvent from the sample.

Claim 89 (previously presented): The method of claim 81, wherein said array comprises at least 1000 samples.

Claim 90 (previously presented): The method of claim 81, further comprising the generation of a work list for instructing an automated distribution mechanism to prepare said array of samples.

Claim 91 (previously presented): The method of claim 81, wherein said sample contains less than 1 milligram of said disease-causing substance.

Claim 92 (previously presented): The method of claim 89, comprising the piercing of said cap and aspiration of medium from said samples.

Claim 93 (canceled).

Claim 94 (currently amended): The method of claim 81, wherein said one or more of the additional component(s), the additional component is a small molecule.

Claim 95 (previously presented): The method of claim 81, wherein said array comprises at least 1 sub-array.

J:\TPI\T600XC1\TQ\AI\response3d.doc\DNB\sl

Claim 96 (previously presented): The method of claim 81, wherein said array comprises at least 1 sub-array with at least 24 samples.

Claims 97-106 (canceled).

Claim 107 (previously presented): The method of claim 81, wherein the processed samples are analyzed to detect a solid or an absence of a solid.

Claim 108 (previously presented): The method of claim 107, wherein a detected solid is analyzed to determine if the solid is amorphous or crystalline.

Claim 109 (previously presented): The method of claim 81, wherein at least about 100 samples are screened per day.

Claim 110 (currently amended): The method of ~~claim 106~~claim 81, wherein at least about 1000 samples are screened per day.

Claims 111-113 (canceled).

Claim 114 (previously presented): The method of claim 81, wherein said array comprises sub-arrays, and wherein an individual sample within a sub-array is subjected to processing methods that are different from the processing methods to which another sample within the sub-array is subjected.

Claim 115 (canceled).

Claim 116 (previously presented): The method of claim 114, wherein said individual sample is subjected to processing methods comprising adding one or more additional components.

J:\TPI\T600XC1\PI\O\A\Fie:\pmsc3d.doc\DNB\sl

Claim 117 (previously presented): The method of claim 81, wherein said array comprises sub-arrays, and wherein an individual sub-array is subjected to processing methods that are different from the processing methods to which another sub-array is subjected.

Claim 118 (canceled).

Claim 119 (previously presented): The method of claim 117, wherein said individual sub-array is subjected to processing methods comprising adding one or more additional components.

Claim 120 (previously presented): The method of claim 81, wherein said disease-causing substance has a molecular weight less than about 1000 g/mol.

Claim 121 (previously presented): The method of claim 81, wherein the amount of said disease-causing substance in each sample is less than about 1 milligram.

Claim 122 (previously presented): The method of claim 81, wherein the amount of said disease-causing substance in each sample is less than about 100 micrograms.

Claim 123 (previously presented): The method of claim 81, wherein the amount of said disease-causing substance in each sample is less than about 100 nanograms.

Claim 124 (previously presented): The method of claim 81, wherein each sample has a total volume between 5-500 μ l.

Claim 125 (previously presented): The method of claim 81, wherein each sample has a total volume between 10-200 μ l.

Claims 126-150 (Canceled).

J:\TPI\T600XC1\TFOA\response3\doc\DN\vs1